

CLAIMS:

1. A method for receiving a multicast transmission in user devices in a network, the method comprising:

5 receiving, by an intermediate device (ID), a request from a first user device to join a multicast group;

identifying multicast data packets associated with said multicast group;

monitoring transmissions of said multicast data packets from said ID, by said first user device, to determine whether said identified multicast data packets are being transmitted
10 between said ID and a second user device in an already established unicast session between said second user device and said ID;

processing said multicast data packets by said second user device, if said second user device is in said already established unicast session between said second user device and said ID; and

15 establishing a unicast session between said first user device and said ID and switching to normal mode and processing multicast data packets by said first user device, if one of said second user device is not in said already established unicast session/connection and said first user device is no longer in a coverage area for receiving transmissions between said second user device and said ID.

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2. The method according to claim 1, further comprising:

testing to determine if said user device is still active; and

performing one of continuing to receive multicast data packets via said established unicast session and selecting another user device by said ID with which said ID establishes a
25 new unicast session.

3. The method according to claim 1, wherein said transmission of multicast data packets occurs in one of a wireless local area network (WLAN), a cable network and a 3G cellular network that supports broadcast services.

4. The method according to claim 1, wherein all user devices in said multicast group operate in monitor mode except said user device that is active in said unicast session, said user device that is active in said unicast session operates in normal mode.
5. The method according to claim 1, wherein said request to join said multicast group is made via an Internet group management protocol (IGMP) request.
6. A method for receiving a multicast transmission in user devices in a network, the method comprising:
 - 10 establishing a unicast session between said intermediate device (ID) and a dedicated terminal;
 - identifying multicast data packets associated with said multicast group;
 - monitoring transmissions of said multicast data packets between said ID and said dedicated terminal by said user devices; and
 - 15 processing said multicast data packets by said dedicated terminal.
7. The method according to claim 6, further comprising:
 - testing to determine if a wake-up message is received from said dedicated terminal;
 - performing one of continuing to receive multicast data packets via said already established unicast session and selecting another dedicated terminal by said ID with which said ID establishes a new unicast session.
8. The method according to claim 6, wherein said transmission of multicast/broadcast data packets occurs in one of a wireless local area network (WLAN), a cable network and a 3G cellular network that supports broadcast services.
9. The method according to claim 6, wherein all user devices in said multicast group operate in monitor mode and said dedicated terminal operates in normal mode..
- 30 10. The method according to claim 6, wherein a plurality of unicast sessions are established in order to support multiple transmission rates.

11. The method according to claim 10, wherein said plurality of unicast sessions are between said ID and a plurality of dedicated terminals.

5 12. The method according to claim 6, wherein said ID is one of an access point (AP), a bridge, a router and a brouter.

13. A multicast-to-unicast converter embedded in an intermediate device (ID) of a network, comprising:

10 means for receiving, by an intermediate device (ID), a request from a first user device to join a multicast group;

 means for identifying multicast data packets associated with said multicast group;

15 means for monitoring transmissions of said multicast data packets from said ID by said first user device to determine whether said identified multicast data packets are being transmitted between said ID and a second user device in an already established unicast session between said second user device and said ID;

20 means for processing said multicast data packets by said second user device, if said second user device is in said already established unicast session between said second user device and said ID; and

25 means for establishing a unicast session between said first user device and said ID and switching to normal mode and processing multicast data packets by said first user device, if one of said second user device is not in said already established unicast session and said first user device is no longer in a coverage area for receiving transmissions between said second user device and said ID.

14. The multicast-to-unicast converter according to claim 13, further comprising:

 means for testing to determine if said user device is still active; and

 means for performing one of continuing to receive multicast data packets via said established unicast session and selecting another user device by said ID with which said ID

30 establishes a new unicast session.

15. The multicast-to-unicast converter according to claim 13, wherein said transmission of multicast data packets occurs in one of a wireless local area network (WLAN), a cable network and a 3G cellular network that supports broadcast services.

5 16. The multicast-to-unicast converter according to claim 13, wherein all user devices in said multicast group operate in monitor mode except said user device that is active in said unicast session, said user device that is active in said unicast session operates in normal mode.

10 17. The multicast-to-unicast converter according to claim 13, wherein said request to join said multicast group is made via an Internet group management protocol (IGMP) request.

18. A multicast-to-unicast converter external to an intermediate device (ID) in a network comprising:

15 means for establishing a unicast session between said intermediate device (ID) and a dedicated terminal;

 means for identifying multicast data packets associated with said multicast group;

 means for monitoring transmissions of said multicast data packets between said ID and said dedicated terminal by said user devices; and

 means for processing said multicast data packets by said dedicated terminal.

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19. The multicast-to-unicast converter according to claim 18, further comprising:

 means for testing to determine if a wake-up message is received from said dedicated terminal;

 means for performing one of continuing to receive multicast data packets via said

25 already established unicast session and selecting another dedicated terminal by said ID with which said ID establishes a new unicast session.

20. The multicast-to-unicast converter according to claim 18, wherein said transmission of multicast data packets occurs in one of a wireless local area network (WLAN), a cable

30 network and a 3G cellular network that supports broadcast services.

21. The multicast-to-unicast converter according to claim 18, wherein all user devices in said multicast group operate in monitor mode and said dedicated terminal operates in normal mode.

5 22. The multicast-to-unicast converter according to claim 18, wherein a plurality of unicast sessions are established in order to support multiple transmission rates.

23. The multicast-to-unicast converter according to claim 22, wherein said plurality of unicast sessions are between said ID and a plurality of dedicated terminals.

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24. The multicast-to-unicast converter according to claim 18, wherein said ID is one of an access point (AP), a bridge, a router and a brouter.

25. A method for receiving a multicast in user devices in a network, the method comprising:

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issuing a request to join a multicast group;

identifying multicast data packets associated with said multicast group;

monitoring transmissions of said multicast data packets to determine whether said identified multicast data packets are being transmitted in an already established unicast session; and

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establishing a unicast session and processing multicast data packets if an already established unicast session does not exist.

26. The method according to claim 25, further comprising:

testing to determine if said already established unicast session is still active; and

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performing one of continuing to receive multicast data packets via said already established unicast session and establishing a new unicast session.

27. A method for receiving a multicast transmission in user devices in a network, the method comprising:

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establishing a unicast session with a dedicated terminal;

identifying multicast data packets associated with a multicast group;

monitoring transmissions of said multicast data packets; and
processing said multicast data packets by said dedicated terminal.

28. The method according to claim 27, further comprising:

5 testing to determine if a wake-up message is received from said dedicated terminal;
performing one of continuing to receive multicast data packets via said already
established unicast session and selecting another dedicated terminal and establishing a new
unicast session.

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29. A multicast-to-unicast converter embedded in a device of a network, comprising:

means for accepting a request to join a multicast group;
means for identifying multicast data packets associated with said multicast group;
means for establishing a unicast session;
means for encapsulating said multicast data packets in a unicast frame; and
means for forwarding said unicast frame via said unicast session.

15 30. The multicast-to-unicast converter according to claim 29, further comprising:

testing to determine if said established unicast session is still active; and
20 performing one of continuing to transmit multicast data packets via said established
unicast session and establishing a new unicast session.

25 31. The multicast-to-unicast converter according to claim 29, wherein said transmission of
multicast data packets occurs in one of a wireless local area network (WLAN), a cable
network and a 3G cellular network that supports broadcast services.

32.-A-multicast-to-unicast converter external to a device in a network comprising:

means for establishing a unicast session with said multicast-to-unicast converter;
means for identifying multicast data packets associated with a multicast group;
30 means for encapsulating said multicast data packets in a unicast frame; and
means for forwarding said unicast frames via said unicast session.

33. The multicast-to-unicast converter according to claim 32, further comprising:

- means for testing to determine if a wake-up message is received;
- means for performing one of continuing to forward multicast data packets via said established unicast session and establishing a new unicast session.

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34. The multicast-to-unicast converter according to claim 32, wherein a plurality of unicast sessions are established in order to support multiple transmission rates.